

50130012 / 4801484758 OK d 11/3/30

Work Order ID 158508

158508

U/R

Friday, March 24, 2017 9:32:36 AM

Item ID: 6F9540V00231 Accept *N900040100* Setup Start *NS1*
Revision ID: URF 16-692 Stop *NS2*
Item Name: AW169 Lower Cutter Installation Assembly
Start Date: 3/29/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 3/31/2017 Req'd Qty: 1.00 *1* Customer:
Reference: SCHEDULED/C
Approvals: Process Plan: [Signature] Date: MAR 24 2017 Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

F.A.I.R. COMPLETION
REQUIRED

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D169-841	B	MAR 29 2017	DAS 6 9-89						
100	DOCUMENT CONTROL	0.00					DAS 28 9-89		MAR 28 2017
100	DC	Memo	0.00						
Doc.Control -USB or Paperwork	Photocopy bluefile per PPP D169-841-015 chg002 and create labels per 6F9540V00231 CHG002								
110	Pick Kit	0.00					DAS 6 9-89		DAS 27 9-89
110	Packaging	Memo	0.00						
Packaging									
120	QC- 100% Inspect kits for completeness	0.00							
120	QC	Memo	0.00						
Quality Control									

QC APPROVAL

POSITIVE RECALL
EFFECTIVE 17/03/24 AUTH [Signature]
RELEASED [Signature] DATE 2017-03-30

*Part must be reviewed by P. Smith

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
32		32		Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Friday, March 24, 2017 9:32:40 AM

Page 1

Work Order ID: 158508

158508

Parent Item: 6F9540V00231

6F9540V00231

Parent Item Name: AW169 Lower Cutter Installation Assembly

Start Date: 3/29/2017

Required Date: 3/31/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 13.11.13 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D169-841-015

Manufactured

No

Each

0.0000

1

D169-841-015

158509

MAR 29 2017

DAS
6
9-89

AW169 Lower Cutter

DAS
28
9-89

DAS
27
9-89

DQA: _____ Date: _____

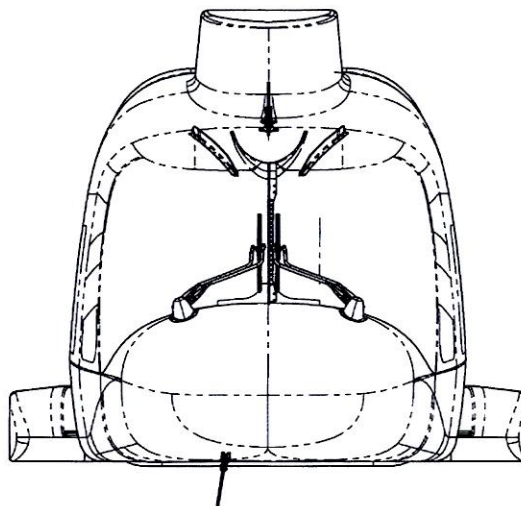


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

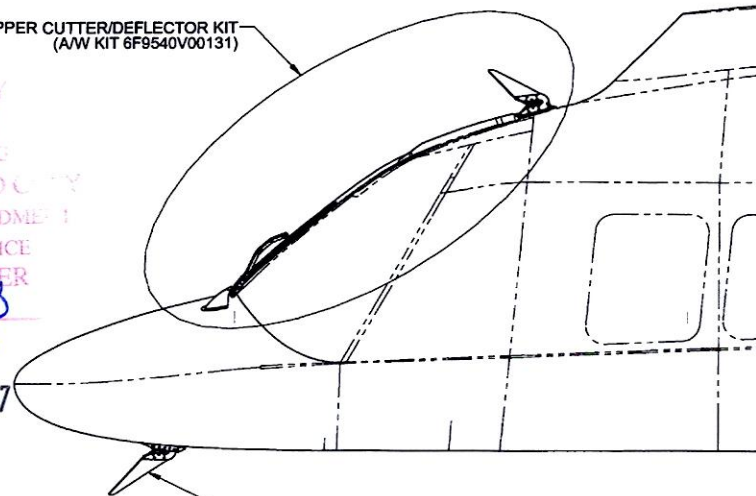


D169-841-011 AW169 CABLE CUTTER SYSTEM

D169-841-013 UPPER CUTTER/DEFLECTOR KIT
(A/W KIT 6F9540V00131)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 152508

MAR 24 2017



D169-841-015 LOWER CUTTER KIT
(A/W KIT 6F9540V00231)

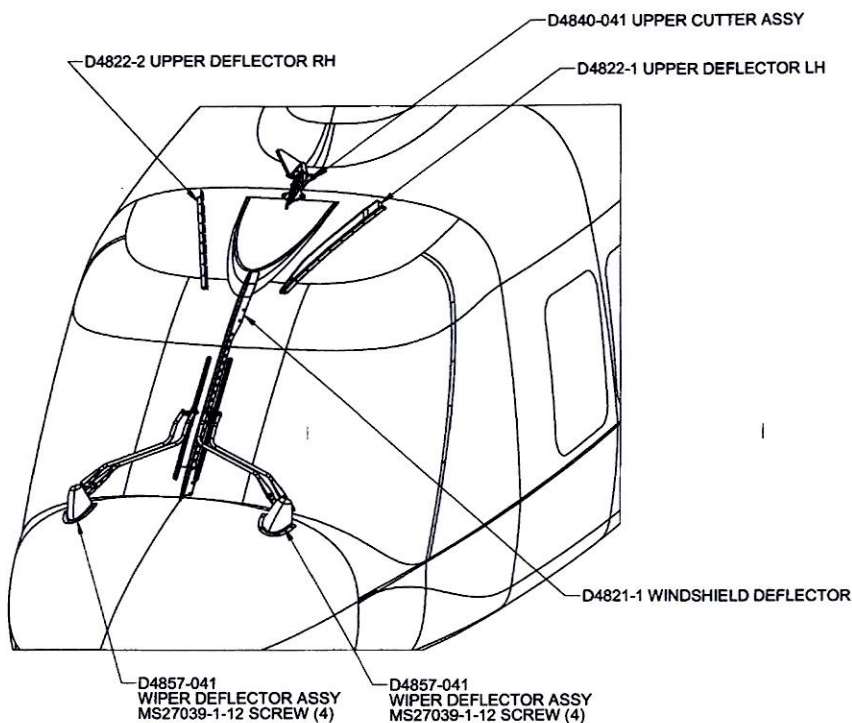
QTY -011	QTY -013	QTY -015	DART P/N	DESCRIPTION	AGUSTA WESTLAND P/N
X			D169-841-011	CABLE CUTTER SYSTEM	TBD
1	X		D169-841-013	UPPER CUTTER/DEFLECTOR KIT	6F9540V00131
1		X	D169-841-015	LOWER CUTTER KIT	6F9540V00231
	1		D4821-1	WINDSHIELD DEFLECTOR	TBD
	1		D4822-1	UPPER DEFLECTOR LH	TBD
	1		D4822-2	UPPER DEFLECTOR RH	TBD
	1		D4840-041	UPPER CUTTER ASSY	TBD
	2		D4857-041	WIPER DEFLECTOR ASSY	TBD
	8		MS27039-1-12	SCREW	N/A
	TBD		TBD	FASTENERS	N/A
		1	D4842-041	LOWER CUTTER ASSY	TBD
		5	MS21042L08	LOCKNUT	N/A
		5	MS27039-0824	SCREW	N/A
		10	NAS1149FN832P	WASHER	N/A

D	MS27039-0824 WAS MS27039-0819. REFORMAT PARTS LIST	AJS	15.06.12
C	D4857-041 WAS D4857-1 (D4944-1 GASKETS NOW IN D4857 DRAWING). PARTS LIST: MS27039-1-12 QTY WAS 10	AJS	15.05.20
B	ADD D4944-1 GASKET (ZN A8-1) (ZN B6-2, B8-2) ADD MS27039-1-12 SCREW, D4857-1 WAS D4857-041-042	DW	13.09.23
A	NEW RELEASE	DB	13.07.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	CP	DRAWING NO.	REV. D
MFG. APPR.	JLM	IIN-D169-841	SHEET 1 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW169 CABLE CUTTER SYSTEM	NTS
DATE	15.06.12	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

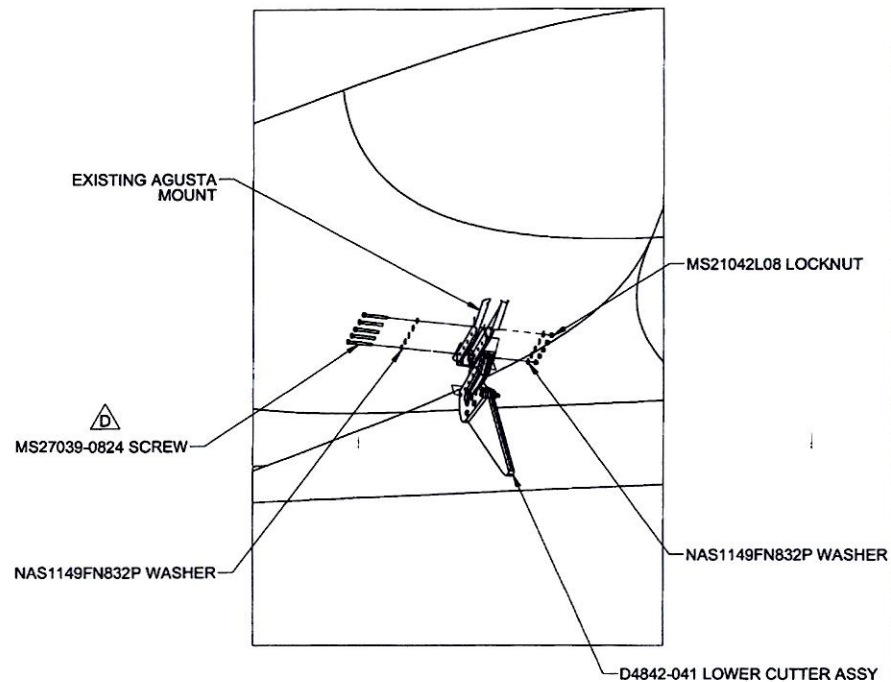
APPROVED

8 7 6 5 4 3 2 1

D
C
B
A



D169-841-013 UPPER CUTTER/DEFLECTOR KIT



D169-841-015 LOWER CUTTER KIT

APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. D
MFG. APPR.	JLM	IIN-D169-841	SHEET 2 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW169 CABLE CUTTER SYSTEM	NTS
DATE	15.06.12	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

8 7 6 5 4 3 2 1

Page 1

120			
QC	Memo		0.00
Quality Control			

LEONARDO HELICOPTERS		Supplier Concession				PAGE 1 of 2	PLANT Leonardo Helic. - Vergiate	
Supplier NC N.	AWC 006/01		Date	02.02.2017	AW Concession	400000061786	Purchase Order	4801373666
P/N	6F9540V00231				Grade/Category	NC	Drawing Issue	
Part Description	PROTECTR, CCP ASSY LOWER				Batch Quantity	20,000	Defective Quantity	20,000
AW NC	GUIDO BRUSCINO						A/C Type/Model	AW6
Supplier	DART AEROSPACE LTD						Contract	
Defect FO01 - Wrong dimensions - * 02.02.2017 09:40:16 GUIDO BRUSCINO (40067) * see supplier document attached - B/N quantities and PO's listed in the Cause of Defect								
						Repetitiveness (same P/N - Defect Code)	NO ☒ YES ☐	Follow
ENGINEERING Evaluation and Proposal								
Engineering Evaluations, including Specialist inputs:				Investigation Report n.		Compliance Report n.		
* 10.02.2017 18:01:48 MARCELLO STEFANELLI (9273) * The part is acceptable with the action proposed by the supplier applied.								
Classification of Deviation from Type Design i.a.w. EASA Part 21A.91 : Minore/B								
Defect effect					Limitations			
	Before Repair		After Repair					
Safety	☐ YES		☐ YES ☐ NO		☐ YES (to specificity) ☒ NO			
Life or Duration	☐ YES		☐ YES ☐ NO					
Strenght	☐ YES		☐ YES ☐ NO					
Performances	☐ YES		☐ YES ☐ NO					
Interchangeability	☐ YES		☐ YES ☐ NO					
Reliability	☐ YES		☐ YES ☐ NO					
Maintainability	☐ YES		☐ YES ☐ NO					
Installability	☒ YES		☐ YES ☒ NO					
Testability	☐ YES		☐ YES ☐ NO					
Only Appearance	☐ YES		☐ YES ☐ NO					
No Effect	☐ YES		☐ YES ☐ NO					
Repair Proposal:					Decision			
* 10.02.2017 18:01:48 MARCELLO STEFANELLI (9273) * See attached supplier document.					☐ Use rep. with spec.repair(not yet applied) ☒ Use repaired with known repair(yet applied) ☐ Use As Is ☐ Use repaired for tests only(see Limitations) ☐ Use As Is for tests only(see Limitations) ☐ Scrap			
Concession Classification		☐ MAJOR ☒ MINOR		Re-submit after Repair		☐ YES ☒ NO		
Mark part with Concession		☒ NO ☐ YES		Method :				
ATE	MARCELLO STEFANELLI		CPE			Date	10.02.2017	
Checks and tests to be performed								
Repair registration with repair WO ☒ Number:								
Repair Evaluation:								
Final Decision								
S/N	Use As Is (UTI)	Use Repaired (R/L)	Scrap (SCA)	S/N	Use As Is (UTI)	Use Repaired (R/L)	Scrap (SCA)	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
Not Serialized	Use As Is (Q.ty)	Use Repaired (Q.ty)	Scrap (Q.ty)					
Role	AW ATE	AW CPE	Inspection Clearance Repair	Quality	Customer	MoD or Authority Representative		
Signature	MARCELLO STEFANELLI							
Date	10.02.2017							

Supplier NC N.

AWC 006/01

Date

02.02.2017

AW

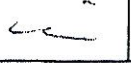
400000061786

Purchase Order

4801373666

DEFECT 0001**FO01****Wrong dimensions**

attachment

 AgustaWestland A Finmeccanica Company		CONCESSION					Pag. 1 of 2	
Manuf. Doc. N.	AWC 006	Date		AW Doc. N.		Purchase Order	4800671131 4800722284 4801147764 4801186922 4801218851 4801288960 4801373666	
AW P/N	6F9540V00231	S/N / Batch Number	B109195 Qty. (1) B133355 Qty. (2) B134314 Qty. (1) B134315 Qty. (1) B134842 Qty. (1) B137492 Qty. (1) B137355 Qty. (2) B137816 Qty. (1) B137818 Qty. (1) B137817 Qty. (1) B140379 Qty. (3) B140381 Qty. (2) B147002 Qty. (2) B150786 Qty. (1)	Grade	A	AW Drawing Issue	B	
Description	Lower Cutter Assy			Batch Qty.	20	Defective Qty.	20	
Manufacturer	Dart Aerospace			Model	AW169			
Defect(s) Description								
Leonardo has informed Dart that there are interference issues installing the lower cable cutter D4842-041 onto the Leonardo interface bracket.								
				Department	Inspector	Signature	Date	
				Quality	16 9-89		2017/02/01	
Defect(s) Cause								
The Lower Cutter body has a dimension of 10.9 +0.25/-0.00 mm. This dimension was reported as part of the approved FAI and has been met with all delivered product.								
				Department	Inspector	Signature	Date	
				Quality	16 9-89		2017/02/01	
Corrective Action						Complete Before		
In order to mitigate the interference issue for Leonardo, Dart is proposing to remove sufficient material to make the overall installation dimension at 22.15 mm +0.05/-0.35.								
				Department	Inspector	Signature	Date	
				Quality	16 9-89		2017/02/01	

For "MANUFACTURER" SUPPLIERS ONLY
ENGINEERING evaluation and proposal

Engineering evaluation

Investigation report

n.....

Compliance report

n.....

Dart's position is that this change will not impact the structural substantiation presented in Report DA169-4 for the lower cutter body since this is not a section with the lowest margin. Therefore removing 0.3 mm max from each part will not impact the structural integrity of the lower cutter assembly. The dimension on the cutter body part D4842-3/-4 will be 10.80 +0.00/-0.200.

The dimension change of the two lower cutter body parts mating, plus the sealant, anodize and primer layers will be defined as a dimension of 22.15 +0.05/-0.35 mm on the assembled lower cutterbody and will be incorporated into the D4842 drawing for inspection.

	Defect effects		Limitations
	Before any repair	After any repair	
Safety	☐ yes	☐ yes ☐ no	☐ yes (specify) ☒ no
Life	☐ yes	☐ yes ☐ no	
Strength	☐ yes	☐ yes ☐ no	
Performances	☐ yes	☐ yes ☐ no	
Interchangeability	☐ yes	☐ yes ☐ no	
Reliability	☐ yes	☐ yes ☐ no	
Maintainability	☐ yes	☐ yes ☐ no	
Installability	☒ yes	☐ yes ☒ no	
Testability	☐ yes	☐ yes ☐ no	
Only aspect	☐ yes	☐ yes ☐ no	
Repair Proposal		Decision to use	
None		☐ Use repaired with specific repair	
		☐ Use repaired with known repair	
		☐ Use as is	
		☐ Use repaired for tests (see Limitations)	
		☐ Use as is for tests (see Limitations)	
		☒ Scrap	
Concession Classification	☒ Major ☐ Minor	Submit after repair	☐ yes ☐ no